



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,157	12/08/2003	Kia Silverbrook	ZF190US	5221
24011 7590 12/13/2007 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			EXAMINER MISLEH, JUSTIN P	
			ART UNIT 2622	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/729,157	SILVERBROOK, KIA	
	Examiner	Art Unit	
	Justin P. Misleh	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09112774.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1 page</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Note: The Examiner for the present application has changed.

Response to Arguments

1. Applicant's arguments filed July 26, 2007 have been fully considered but they are not persuasive.
2. Applicant first argues, "Although Duffield et al discloses an ink jet printer, Duffield et al is in a different field of endeavor because it does not relate to a printhead assembly for a camera system."
3. The Examiner respectfully disagrees with Applicant's position. Applicant claims, *inter alia*, "an ink reservoir assembly that is mountable on the chassis and defines at least three ink reservoirs in which respective differently colored inks are received, the ink reservoir assembly defining an outlet" (emphasis added). Additionally, according to the specification, on page 2, Applicant summarizes critical features of the ink reservoir assembly. Finally, in the specification, also on page 2, Applicant states, "The invention extends to a camera system that includes a printhead assembly as described above" (emphasis added).
4. Based on these facts and contrary to Applicant's position, Applicant's field of endeavor is not specifically limited to a printhead assembly for a camera system; rather the field of endeavor broadly extends to all kinds of printhead assemblies. Duffield, as admitted by Applicant (see Reply, page 2), discloses an ink jet printer. Such disclosure is a clear indication that Duffield and Applicant share a field of endeavor.

5. Applicant additionally argues, "The Applicant respectfully disagrees that Duffield et al teaches that the printhead is an integrated circuit and also notes that there is no teaching that the printhead spans the printing path."

6. The Examiner respectfully disagrees with Applicant's position. Applicant's claim language requires, *inter alia*, " at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path."

7. Nothing in Applicant's claim language defines specifically what the "printing path" is, how the "printing path" is arranged, or what it means to "span the printing path". Furthermore, nothing in Applicant's claim language defines specifically what the "outlet" is, how the "outlet" is arranged, or how the "integrated circuit" is "positioned in the outlet". In summary, Applicant's claim language is written broadly enough such that no substantial structure regarding the printhead assembly or ink reservoir assembly is actually defined. At best, Applicant has simply recited a plurality of undefined components that must exist within a system/assembly.

8. Furthermore, Applicant's claim language is not shown in the drawings. At best, Figures 5 – 7 show the exterior of the ink reservoir assembly (42). No details regarding how the printer prints, where the printing path is, or the print head integrated circuits are shown in these figures. Moreover, while Figures 13 and 14 show the interior of the ink reservoir assembly, no details regarding how the printer prints, where the printing path is, or the print head integrated circuits are shown in these figures. Finally, Figures 16 – 22 show the final assembly of the chassis with print head, the ink reservoir, and the print medium; however, again, no details regarding how the printer prints, where the printing path is, or the print head integrated circuit are shown.

9. In the specification, the ink reservoir assembly is described on pages 7 and 8, but absolutely no details regarding how the printer prints, where the printing path is, or the print head integrated circuit are described in this section. However, the specification makes clear, on page 8, that “the image capture and processing integrated circuit 48 provides most of the electronic functionality of the camera with the exception of the print head integrated circuit”. Thus, the processing integrated circuit (48) cannot be regarded at the print head integrated circuit. In fact, the only details in the whole application (including both the drawing and specification) regarding the print head integrated circuit are provided in a single paragraph on page 16 of the specification. Even so, there are still no details how the printer prints, where the printing path is, or the print head integrated circuit.

10. On the basis of these facts, there is no support for Applicant’s argument that “Duffield et al teaches that the printhead is an integrated circuit and also notes that there is no teaching that the printhead spans the printing path”. For these reasons, the rejection will be maintained.

Drawings

11. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path” limitation must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

12. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 1 – 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US 5,847,836) in view of Duffield et al. (US 4,432,005).

15. Referring to **Claim 1**, the Suzuki reference discloses in Figure 1, a printhead assembly for a camera system having a chassis and a platen assembly that is mountable on the chassis, the platen assembly (roll-shaped platen 10) being configured to support passage of a print medium along a printing path, the printhead assembly (5) comprising an ink reservoir assembly (carriage 4) that is mountable on the chassis (See Col. 4, lines 41-67). However, the Suzuki reference does not show a detail about the ink reservoir assembly defines at least three ink reservoirs in which respective differently colored inks are received; the ink reservoir assembly defining an outlet; a guide assembly that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet; and at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path.

16. The Duffield reference teaches in Figure 1, a printhead assembly comprising the ink reservoir assembly defines at least three ink reservoirs (8a, 8b and 8c, see Col. 4, lines 55-60) in which respective differently colored inks are received; the ink reservoir assembly defining an outlet (hole 86); a guide assembly (86a, 86b and 86c) that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet (see Col. 6, lines 64-67 and Col. 7, lines 1-3); and at least one printhead integrated circuit (4) that is positioned in the outlet to span the printing path; printhead integrated circuit defining at least three sets of inlet apertures (e.g., three sets of orifices in the printing head 4), each set of inlet apertures being aligned with a respective ink path (See Col. 4, lines 57-60, Col. 5, lines 3-5 and Col. 6, lines 65-68). The Duffield reference is evidence that one of ordinary skill in the art at the time to see

15. Referring to **Claim 1**, the Suzuki reference discloses in Figure 1, a printhead assembly for a camera system having a chassis and a platen assembly that is mountable on the chassis, the platen assembly (roll-shaped platen 10) being configured to support passage of a print medium along a printing path, the printhead assembly (5) comprising an ink reservoir assembly (carriage 4) that is mountable on the chassis (See Col. 4, lines 41-67). However, the Suzuki reference does not show a detail about the ink reservoir assembly defines at least three ink reservoirs in which respective differently colored inks are received; the ink reservoir assembly defining an outlet; a guide assembly that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet; and at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path.

16. The Duffield reference teaches in Figure 1, a printhead assembly comprising the ink reservoir assembly defines at least three ink reservoirs (8a, 8b and 8c, see Col. 4, lines 55-60) in which respective differently colored inks are received; the ink reservoir assembly defining an outlet (hole 86); a guide assembly (86a, 86b and 86c) that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet (see Col. 6, lines 64-67 and Col. 7, lines 1-3); and at least one printhead integrated circuit (4) that is positioned in the outlet to span the printing path; printhead integrated circuit defining at least three sets of inlet apertures (e.g., three sets of orifices in the printing head 4), each set of inlet apertures being aligned with a respective ink path (See Col. 4, lines 57-60, Col. 5, lines 3-5 and Col. 6, lines 65-68). The Duffield reference is evidence that one of ordinary skill in the art at the time to see

more advantages for the defines at least three ink reservoirs in which respective differently colored inks are received; the ink reservoir assembly defining an outlet; a guide assembly that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet; and at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path so that the printhead assembly can print out color image and the link be provided in a low-cost easily replaceable cartridge with an automatic signal to indicate when the ink supply is low (see Col. 2, lines 7-9). For that reason, it would have been obvious to the one of ordinary skill in the art at the time to modify the printhead assembly of Suzuki ('836) for providing at least three ink reservoirs in which respective differently colored inks are received; the ink reservoir assembly defining an outlet; a guide assembly that is positioned in the ink reservoir assembly to define at least three discrete ink paths that open at the outlet; and at least one printhead integrated circuit that is positioned in the outlet to span the printing path, the, or each, printhead integrated circuit defining at least three sets of inlet apertures, each set of inlet apertures being aligned with a respective ink path as taught by Duffield ('005).

17. Referring to **Claim 2**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to claim 1, and Duffield reference discloses in which the ink reservoir assembly defines three ink reservoirs (8a, 8b and 8c) and the guide assembly (86a, 86b and 86C) defines three discrete ink paths (See Col. 6, lines 64-68).

18. Referring to **Claim 3**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 2, and Duffield reference discloses in which both the ink

reservoir assembly (8a, 8b, 8c) and the guide assembly (86a, 86b and 86C) are elongate to span the printing path, the ink reservoir assembly including an elongate base member (base 84) and an elongate cover member (94 as shown in Figures 5 and 10-12), the cover member having a roof wall, a pair of opposed side walls and a pair of spaced inner walls, the side walls and the inner walls depending from the roof wall and being generally parallel to each other and the base member having a floor and a pair of opposed end walls and defining an elongate opening in which the printhead integrated circuits are mounted, the guide assembly being interposed between lower ends of the inner walls and the floor as shown in Figure 5 (See Col. 6, line 61 through Col. 7, lines 17).

19. Referring to **Claim 4**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 3, and Duffield reference discloses in which the guide assembly includes a pair of guide walls that extend from respective lower ends of the inner walls inwardly towards the elongate opening to define the three distinct ink paths that terminate at respective sets of inlet apertures (orifices) of the printhead (4) integrated circuits as shown in Figures 5, 6 and 10-12 (See Col. 6, line 61 through Col. 7, lines 17).

20. Referring to **Claim 5**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 3, and Duffield reference discloses in which the base member, the cover member and the guide assembly are molded of a plastics material (see Col. 4, lines 63-65, Col. 6, lines 61-63 and Col. 7, lines 5-7).

21. Referring to **Claim 6**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 3, and Duffield reference discloses in which one of the end walls defines a number of air inlet openings that are treated to be hydrophobic to permit the ingress of

air into the ink reservoirs as ink is fed from the ink reservoirs and to inhibit the egress of ink (air pump 22 providing constant pressure, see Col. 4, lines 65-67 and Col. 6, lines 25-33).

22. Referring to **Claim 7**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 3, and Duffield reference discloses in which a sponge-like member (slight suction in the chamber 38, see Col. 5, lines 60-64) is positioned in each ink reservoir to store the ink while inhibiting agitation of ink during general use of the camera system of the Suzuki reference (See Examiner's comments on Claim 1).

23. Referring to **Claim 8**, the Suzuki and Duffield references disclose all subject matter as discussed in respected to Claim 1, and Suzuki reference discloses a camera system that includes a printhead assembly as shown in Figure 1.

Conclusion

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Application/Control Number:
10/729,157
Art Unit: 2622

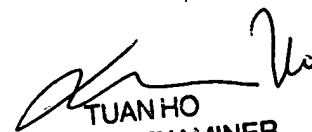
Page 10

25. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lin Ye can be reached on 571.272.7372. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin Misleh
Examiner, GAU 2622
December 6, 2007


TUAN HO
PRIMARY EXAMINER